

## 50 CFR Part 17

**Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Alabama Red-bellied Turtle****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Proposed rule.

**SUMMARY:** The Service proposes to list the Alabama red-bellied turtle (*Pseudemys alabamensis*) as a threatened species. This herbivorous freshwater turtle is restricted to the lower part of the floodplain of the Mobile River drainage system in Baldwin and Mobile Counties, Alabama. There is only one known nesting area receiving repeated annual use, and turtles nesting at this location are threatened by high incidence of egg predation and human disturbance. These factors combined with an apparent small population size, low recruitment, and this turtle's restricted range indicate that without protection, the species could become endangered in the foreseeable future. This proposal, if made final, will implement the protection of the Endangered Species Act of 1973, as amended, for this turtle. The Service seeks relevant data and comments from the public.

**DATES:** Comments from all interested parties must be received by September 8, 1986. Public hearing requests must be received by August 22, 1986.

**ADDRESSES:** Comments and materials concerning this proposal should be sent to the Endangered Species Field Office, U.S. Fish and Wildlife Service, Jackson Mall Office Center, Suite 316, 300 Woodrow Wilson Avenue, Jackson, Mississippi 39213. Comments and materials received will be available for public inspection, by appointment,

during normal business hours at the above address.

**FOR FURTHER INFORMATION CONTACT:** Mr. Dennis B. Jordan at the above address (601/965-4900 or FTS 490-4900).

**SUPPLEMENTARY INFORMATION:****Background**

Although recognized as distinct as early as 1856 (Agassiz 1857), the Alabama red-bellied turtle was not formally described until 1893 (Baur 1893), when the species was described from type-specimens from Mobile Bay in the Gustav Kohn collection (now in the National Museum of Natural History, Washington, D.C.). The taxonomic status of this turtle has been questioned (Carr 1938, 1952) and questions still remain regarding its relationships with other members of the *Pseudemys rubriventris* group, specifically the Florida red-bellied turtle (*Pseudemys nelsoni*). However, the Alabama red-bellied turtle is considered to be a valid species (Carr and Crenshaw 1957, Mount 1975, McCoy and Vogt 1979, Pritchard 1979, Ward 1984, and Dobie 1985a).

The Alabama red-bellied turtle is a large (20–25 centimeters or 8–10 inch carapace length), freshwater herbivorous turtle, normally with an orange to reddish plastron and a prominent notch at the tip of the upper jaw, bordered on either side by a toothlike cusp. The elongated carapace is highly arched and elevated along the mid-line; its highest point is often anterior to the midbody where the carapace is widest. The carapace is brown to olive, with yellow, orange or reddish streaks and mottling that form distinct, light vertical bars on the pleural scutes. The skin is olive to black with yellow to light orange stripes.

Characteristics most useful in distinguishing this species from other members of its genus in the Southeast include the number and configuration of stripes on the head (Ernst and Barbour 1972, Mount 1975, Dobie 1985a). The Alabama red-bellied turtle has more stripes than the Florida red-bellied turtle, and both the former and later have a prefrontal arrow which is normally absent in the river cooter

(*Pseudemys concinna*) and the cooter (*Pseudemys floridana*). Arching of the shell, and the presence of a notch with prominent cusps also distinguish the Alabama red-bellied turtle from the river cooter and the cooter; cusps and shell arching are normally absent in the latter two species.

The Alabama red-bellied turtle inhabits the lower part of the floodplain of the Mobile River System in Baldwin and Mobile Counties, Alabama. It was once found as far north as the lake in Little River State Park (Mount 1975) in southern Monroe County and now occurs at least as far north as the Mobile River below David Lake in Mobile County. It appears to be most abundant from a point on the Tensaw River adjacent to Hurricane Landing south along the river system to Interstate Highway 10 (21 kilometers or 13 miles). Between Interstate Highway 10 and U.S. Highway 90 (1.3 kilometers or .8 miles) and north of Highway 90 in backwater areas of bays, water depth in many places is 1–2 meters (3.3–6.6 feet), and these areas have extensive beds of submerged and emergent aquatic vegetation. These broad, vegetated expanses of shallows appear to support a greater number of Alabama red-bellied turtles than any other area and they are considered to be the principal habitat of the species (McCoy and Vogt 1979, Dobie 1985a). Dobie (1985a) suggested that dense beds of aquatic vegetation provide turtles with substrate for basking (these turtles are heliothermic) and predator avoidance, in addition to food. This turtle is believed to repeatedly nest in only one area, although Dobie (1985a) suggested that the species may periodically nest along embankments of the causeway across Mobile Bay.

There has been some confusion over museum specimens catalogued as Alabama red-bellied turtles which were collected in Florida, Tennessee, Mississippi, Louisiana and east Texas. These specimens represented distributional records outside the range reported by McCoy and Vogt (1979) and Dobie (1985a). Dobie (1985a) examined to specimens collected in the panhandle of Florida. He identified the Wakulla

River specimen as river cooter and believed the other was a Florida red-bellied turtle. Dobie (1985a) suggested that records of Alabama red-bellied turtles obtained by Carr and Crenshaw (1957) from Tennessee, Louisiana, and east Texas may be river cooters, although he did not examine specimens from these locations. Records from the Mississippi Sound in Mississippi and Perdido Bay, Bon Secour Bay, and Dauphin Island, Alabama, are considered to be waifs (Dobie 1985a). Specimens of Alabama red-bellied turtles from the Tchoutacaboffa River in Mississippi and salt marshes of southeastern Louisiana (Viosca 1923) may represent an undescribed species (Dobie 1985a). Review of available information suggest that the Alabama red-bellied turtle is restricted entirely to small areas along the Lower Mobile drainage system.

Total population size and trend of this species are poorly known. McCoy and Vogt (1979) provided the only data on relative abundance for this turtle: they trapped 20 animals in 1008 hours of sampling (.02 turtles/hour). Dobie (1985a) questioned the utility of these data since trapping was more opportunistic than systematic. Dobie (1985b) showed a decline of young turtles in the population between 1970 and 1983. Of the 24 individuals collected from 1968 to 1970, 10 were juveniles and small adults, whereas only 1 out of 20 collected between 1971 and 1983 was a juvenile or small adult. Dobie (1985a) believed that decline in recruitment was caused mostly by disturbance and egg predation on the known nesting area. Dobie (1985b) observed 63 nests of the species on the nesting area between 1971 and 1983. Fourteen Alabama red-bellied turtle nests were found on the same nesting area in the summer of 1985 (B. Weisberger, Auburn University, personal communication). Clutch sizes observed in 1985 by Weisberger ranged from 4 to 9 eggs (average of 6, which is low when compared to other *Pseudemys*).

The only known nesting habitat, an island spoil bank bordered on one side by wooded swamp, is privately owned by four different parties. One parcel is 7 hectares (17 acres), and each of the other three is 0.4 hectares (1 acre). The owners of the largest parcel of the nesting island have been contacted and are very willing to cooperate with the Service to benefit the turtle.

The following is a brief history of actions which led up to this proposal. A symposium sponsored by the Alabama Department of Conservation and Natural Resources resulted in the

publication of a list of endangered and threatened plants and animals in Alabama, which included the Alabama red-bellied turtle as a threatened species (Mount 1976). Based on this status, the Service included the Alabama red-bellied turtle in a notice of review, published in the **Federal Register** on June 6, 1977 (42 FR 28903). Subsequently, two surveys were funded to determine the status of the Alabama red-bellied turtle. The first of these, by C.J. McCoy and R.C. Vogt (1979), found that the species occurred from the confluence of the Mobile and Tensaw Rivers, south into Mobile Bay. They also added information on the location of this species' primary habitat. This study was cut short by Hurricane Frederick. The Service funded a second study (Dobie 1985a) to determine this species' range east and west of the Mobile River system. Twelve drainages and the lakes on St. Vincent Island were trapped (total trap hours—2087, total daylight trap hours—1022), and emphasis was placed on sampling the Pascagoula, Escambia, Choctawhatchee, and Apalachicola Rivers. Each of these four rivers is large and they have habitats similar to those on the lower parts of the Mobile River system. This intensive effort failed to locate individuals outside the Mobile River system, supporting the conclusion that this turtle is endemic to the Mobile River system. Dobie (1985a) also provided other information on aspects of the natural history of the turtle which he obtained from previous studies. In 1982, the International Union for Conservation of Nature recognized the status of the Alabama red-bellied turtle as either endangered, vulnerable, or rare (Dobie 1982); a final determination of this turtle's status was not made due to lack of information. In 1983, the Alabama red-bellied turtle was assigned the status of "Threatened and Declining" by a committee on reptiles and amphibians at the Alabama Non-game Conference (Mount 1984).

#### Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal Lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the Alabama red-bellied turtle (*Pseudemys alabamensis*) are as follows:

**A. The present or threatened destruction, modification, or curtailment of its habitat or range.** The Alabama red-bellied turtle is threatened primarily by human activities on this species' only known nesting site. Dobie (1985a) reported heavy use of the sand beach habitat by campers on summer holidays during times when turtles nested. Camp lights, people, and associated noise likely reduce nesting by the Alabama red-bellied turtle on the island during such high recreational use time periods. Three-wheeled vehicles were observed uncovering turtle nests, resulting in dehydration, predation, and breakage of eggs during the summer of 1985 (B. Weisberger, personal communication). These consistent disturbances to nesting habitat, and predation (see factor "C" in this section), have apparently reduced reproductive success and recruitment since 1970 (see Background).

The remainder of the turtle's habitat, the marshes and bays of the lower part of the Mobile River System, are not as disturbed as the nesting island. However, Dobie (1985a) observed what appeared to be areas with reduced amounts of aquatic vegetation south of Clover Leaf Landing. He suggested that these areas had been chemically treated. Mike Eubanks of the Mobile Office of the Corps of Engineers (personal communication) indicated that the Corps and State of Alabama had treated a limited amount of aquatic habitat with 2,4 D within the Lower Mobile Bay area. These treatments started in the 1950's and were limited to only a few small areas. The Corps discontinued its program in 1978, although the State of Alabama has continued small treatments since 1981. Chemical treatments were initiated primarily to control introduced aquatic vegetation such as water hyacinths. However, the Service believes that these treatments have not reduced the quality of Alabama red-bellied turtle habitat in the area. Rather, natural phenomena, such as movement of salt wedges up into bays during hurricanes, more likely account for reductions in aquatic vegetation along the Lower Mobile Bay area.

More information is needed to determine how turtles use certain microhabitats to perform ecological functions, such as nesting, feeding, wintering, and thermoregulation.

**B. Overutilization for commercial, recreational, scientific, or educational purposes.** Dobie (1985a) reported that residents in the vicinity of the known nesting habitat of this turtle spent several days a year gathering and eating turtle eggs. This practice has apparently

declined in response to decreases in the number of nesting females and eggs.

Some Alabama red-bellied turtles have been trapped and sold as pets and food (Dobie 1985a). Headlights and dip nets have been used to collect turtles in weed beds during warm months, especially for obtaining turtles for the pet trade (Dobie 1985a). Pet dealers have advertised this species for up to twenty-five dollars per turtle (Dobie 1985a). Trawling has been used to obtain winter aestivating turtles for sale as food (Dobie 1985a). In addition, Alabama red-bellied turtles are incidentally harvested by commercial fishermen and shrimpers in gill, hoop, and trammel nets, and crab traps (McCoy and Vogt 1979). When combined with predation and physical disturbance to the nesting area, taking of this species increases the overall precarious nature of this turtle's future.

**C. Disease or predation.** There is no known threat from disease. The alligator is probably a frequent predator of hatchling and juvenile red-bellied turtles as evidenced by the high frequency of tooth scars found on the shells of young turtles (Dobie 1985a).

Domestic pigs were released on the nesting island during the late 1960's. These pigs follow turtles from the water to nest sites where they eat eggs during and subsequent to laying (Dobie 1985a). Domestic pigs are still on the island, although their predation on turtle eggs has not been reported in recent years.

**Fish crow (*Corvus ossifragus*)** predation appears to be one of the main factors limiting nest success of Alabama red-bellied turtles on the only known nesting site (Dobie 1985a). For nine red-bellied turtle nests (containing 3-6 eggs each) found between May 27 and July 15, 1978, 100 percent of the eggs were destroyed by crows (Meany 1979). Similar rates of predation were noted during the summer of 1985 (B. Weisberger, personal communication). Fish crows also prey upon black-knobbed sawback turtle (*Graptemys nigrinoda*) nests on this island: 95 percent of the nests were destroyed by crows during a study by Lahanas (1982). Heavy predation on Alabama red-bellied turtles is facilitated by concentration of nests on the sand spoil banks of the island; these natural dry sand beaches are relatively rare within the vicinity of the island. Fire ants may also prey upon turtle eggs, as they have been found in the nest chambers of the Alabama red-bellied turtle (See Mount 1981, and Mount *et al.* 1981, for possible significance of predation of fire ants on eggs).

**D. The inadequacy of existing regulatory mechanisms.** This species

currently receives no statutory protection within the State of Alabama.

**E. Other natural or manmade factors affecting its continued existence.**

Hurricanes may periodically reduce aquatic vegetation by forcing salt water wedges up into bays (see discussion in factor "A" of this section). Historically, these losses of aquatic vegetation probably had no permanent impact on the species; turtle numbers were reduced in years immediately following hurricanes, but increased as aquatic vegetation became reestablished. However, a reduction in recruitment of young turtles since 1970, primarily due to predation (see factor "A" of this section), may decrease the ability of the Alabama red-bellied turtle to handle catastrophic events such as hurricanes.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list the Alabama red-bellied turtle as a threatened species. Threatened status is proposed due to the species' restricted range, apparent scarcity, low population recruitment, and lack of statutory protection. Endangered status is not appropriate because the species is not faced with imminent extinction at this time. Critical habitat is not being proposed for reasons discussed in the following section.

#### Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for the Alabama red-bellied turtle at this time. As discussed under factor "B" in "Summary of Factors Affecting the Species," collecting threatens this turtle's continued survival. The publication of critical habitat maps and other publicity accompanying critical habitat designation could increase collecting pressure and enforcement problems. Only one nesting site is known for this species, and identification of this area, which is privately owned, could increase the taking of nesting individuals, hatchlings, or eggs.

#### Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition,

recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402 and were recently revised at 51 FR 19926 (June 3, 1986). Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency may enter into formal consultation with the Service. If this species is listed as threatened, Federal involvement is expected to include the U.S. Army Corps of Engineers' permit activities (e.g., Clean Water Act, Section 404 permits). Coordination with the Corps of Engineers may be necessary to develop a vegetation control program that will enhance habitat of the Alabama red-bellied turtle in the Mobile River Basin. No major conflicts with Federal projects are foreseen at this time.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that apply to all threatened wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It is also illegal to

possess, sell, delivery, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22, 17.23, and 17.32. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. For threatened species, there are also permits for zoological exhibition, educational purposes, or special purposes consistent with the purposes of the Act. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

#### Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of this proposal are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this species;

(2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical habitat as provided by Section 4 of the Act;

(3) Additional information concerning the range and distribution of this species; and

(4) Current or planned activities in the subject area and their possible impacts on this species.

Final promulgation of the regulation on this species will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within

45 days of the date of the proposal. Such requests must be made in writing and addressed to Endangered Species Field Supervisor (see ADDRESSES section).

#### National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

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#### Author

The primary author of this proposed rule is Fred M. Bagley of the Service's Jackson Endangered Species Field Station (see Address section).

#### List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife  
Fish, Marine mammals, Plants  
(agriculture).

#### Proposed Regulation Promulgation

##### Part 17—[AMENDED]

Accordingly, it is hereby proposed amend Part 17, Subchapter 8 of Chapter I, Title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for Part 17 continues to read as follows:

**Authority:** Pub. L. 93-205, 87 Stat. 884; L. 94-359, 90 Stat. 911; L. 95-632, 92 Stat.; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-30, Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. It is proposed to amend § 17.11(l) by adding the following, in alphabetical order under "Reptiles," to the List of Endangered and Threatened Wildlife

##### § 17.11 Endangered and threatened wildlife.

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Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
REPTILES							
Turtle, Alabama, red-bellied	<i>Pseudemys alabamensis</i>	U.S.A. (AL)	Entire			NA	NA

Dated: June 12, 1986.

**Susan E. Recce,**

*Acting Assistant Secretary for Fish and Wildlife and Parks.*

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